

IN THE CLAIMS:

There are no amendments to the claims.

- 1        1. (Previously Presented)      A liquid crystal display device, comprising:
  - 2            a first substrate;
  - 3            a second substrate facing said first substrate;
  - 4            a liquid crystal layer interposed between said first and second substrates; and
  - 5            a group of electrodes disposed on said first substrate so as to create an electric
  - 6            field in said liquid crystal layer generally parallel to said first substrate in an activated state in
  - 7            which a drive voltage is applied to said group of electrodes,
  - 8            said liquid crystal molecules aligning generally perpendicularly to a plane of
  - 9            said first substrate in a nonactivated state in which said drive voltage is not applied to said
  - 10          group of electrodes, said liquid crystal molecules aligning generally parallel to said plane of
  - 11          said first substrate in said activated state,
  - 12          said liquid crystal molecules having a pre-tilt angle of less than 90° in at least
  - 13          one of a part of said liquid crystal layer corresponding to a pixel and said electrodes on said
  - 14          first substrate,
  - 15          wherein said electrodes include a first electrode of an opaque metal provided
  - 16          on a surface of said first substrate facing said second substrate and a second electrode of an
  - 17          opaque metal provided on said surface with a separation from said first electrode, the
  - 18          separation creating a space which is part of the pixel, said first and second electrodes being

19 provided outside a display area in which transmission of an optical beam is turned on and off,  
20 and

21 wherein said liquid crystal display device further includes a first projection  
22 provided on said first electrode and a second projection provided on said second electrode,  
23 said first and second projections inducing said pre-tilt angle in said liquid crystal molecules  
24 located adjacent to said first and second projections.

2-3. (Cancelled)

1 4. (Original) A liquid crystal display device, comprising:  
2 a first substrate;  
3 a second substrate facing said first substrate;  
4 a liquid crystal layer interposed between said first and second substrates; and  
5 a group of electrodes disposed on said first substrate so as to create an electric  
6 field in said first substrate in an activated state in which a drive voltage is applied to said  
7 group of electrodes;  
8 said liquid crystal molecules aligning generally perpendicularly to a place of  
9 said first substrate in a non-activated state in which said drive voltage is not applied to said  
10 group of electrodes,

11                   said liquid crystal molecules aligning generally parallel to said plane of said  
12                   first substrate in said activated state;  
13                   said liquid crystal layer having a birefringence larger than about 0.10 but  
14                   smaller than about 0.25.

1                   5.       (Original) A liquid crystal display device as claimed in claim 4, wherein  
2                   said liquid crystal layer contains a tolan-family component.

1                   6.       (Previously Presented)       A liquid crystal display device, comprising:  
2                   a first substrate;  
3                   a second substrate facing said first substrate;  
4                   a liquid crystal layer interposed between said first and second substrates; and  
5                   a group of electrodes disposed on said first substrate so as to create an electric  
6                   field in said liquid crystal layer generally parallel to said first substrate in an activated state in  
7                   which a drive voltage is applied to said group of electrodes; and  
8                   a molecular alignment film provided on said first substrate so as to cover said  
9                   electrodes,  
10                  said liquid crystal molecules aligning generally perpendicularly to a plane of  
11                  said first substrate in a nonactivated state in which said drive voltage is not applied to said

12 group of electrodes, said liquid crystal molecules aligning generally parallel to said plane of  
13 said first substrate in said activated state,

14 said liquid crystal molecules having a pre-tilt angle of less than 90° in at least  
15 one of a part of said liquid crystal layer corresponding to a pixel and said electrode on said  
16 first substrate,

17 wherein said electrodes include a first electrode of an opaque metal provided  
18 on a surface of said first substrate facing said second substrate and a second electrode of an  
19 opaque metal provided on said surface with a separation from said first electrode, the  
20 separation creating a space which is part of the pixel, said first and second electrodes being  
21 provided outside a display area in which transmission of an optical beam is turned on and off,  
22 and

23 wherein said liquid crystal display device further includes a first region in said  
24 molecular alignment film in correspondence to said first electrode and a second region in said  
25 molecular alignment film in correspondence to said second electrode, said first and second  
26 regions being formed by ultraviolet irradiation and inducing said pre-tilt angle in said liquid  
27 crystal molecules located adjacent to said first and second regions.